HIT Standards Committee

Clinical Operations Workgroups – Task Force on Vocabulary

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Panel 2 – Federal Provider Organizations

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My name is Nancy Orvis. As the Military Health System's Director, Health Standards Participation & Information Management/Information Technology Integration, Office of the Chief Information Management, for the Department of Defense (Health Affairs)(DoD (HA)), I am pleased to be here to address you and respond to questions about health care vocabularies, value sets, and subsets.

The Military Health System (MHS) is a unique partnership of medical educators, medical researchers, and healthcare providers and support personnel worldwide that make up global healthcare network within the Department of Defense. We provide cutting-edge health care to our more than 9.6 million beneficiaries worldwide. From the battlefield, to the homefront and to humanitarian missions, the MHS heroes provide truly global healthcare. We operate in austere environments caring for the wounded, ill and injured and in brick and mortar facilities where we focus on keeping our Service members healthy while providing for the health care needs of their family members.

With our large organization, and our Commanders, patients, providers, and health care support teams need timely access to information that can help them make better decisions and enable better health outcomes. The MHS Information Management /Information Technology (IM/IT) mission is to "provide the right information to the right customer at the right time to improve and maintain the health status of our beneficiaries across the entire continuum of health care operations." In January 2010, the MHS IM/IT Strategic Plan was approved which set 10 goals to accomplish in the next 5 years. These goals include focusing on evolving our architecture and

advancing our IT interoperability to create fast, easy to use, accessible, and reliable health IT products and services in support of electronic health records and advancing a personal health agenda for each of our beneficiaries. Hence, our emphasis on supporting health IT standards work and progress towards full healthcare interoperability.

I am privileged to be with you here today representing the MHS and to address your questions. Let me now go directly to the questions we've been asked to address: {Although all questions are answered in the written testimony, I will only address questions 4,5, 8 and 10 during my 5 minutes.

1) Who should determine subsets and/or value sets that are needed?

- Health care subject matter experts and professionals who are well versed in the day-to-day operations of health care delivery in coordination with recognized standards bodies.

2) Who should produce subsets and/or value sets?

- Recognized health standards-related organizations produce vocabularies and terminologies such as SNOMED CT, LOINC, and RxNorm. The subsets and value sets are defined from that context to support specific needs for functional use, exchange and sharing of information.

3) Who should review and approve subsets and/or value sets?

- Value sets have to be applicable and useful for health information exchange. Hence the need for health care subject matter experts and professionals who are well versed in the day-to-day operations of health care delivery to be thoroughly

involved in the review and approval of health standards which ideally conform to good vocabulary practices as well.

4) How should subsets and/or value sets be described, i.e., what is the minimum set of metadata needed?

The United States and the MHS are global leaders with mobile and diverse populations and the MHS serves beneficiaries and coalition forces worldwide. We must be able to exchange health information with our international and national health partners, while being alert to emerging health threats and supporting population health monitoring and reporting. As a result, metadata standards - or data about data - should be based on internationally, recognized metadata standards from the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) (ISO/IEC) whenever possible. The ISO/IEC 11179 Metadata Registry (MDR) Standard) is the international standard for representing metadata for an organization in a Metadata Registry. By using international metadata standards as a minimum set, it will help to support information sharing in a global disease control and health surveillance program, while also assisting emergency preparedness and response

5) In what format(s) and via what mechanisms should subsets and/or value sets be distributed?

Electronic access and distribution of most terminologies has worked for the lone academic searching for medical concepts, but not the Run-Time software developer's environment. For example, having the Unified Medical Language System on a CD does not mean that a developer now has terminology content in digestible format for a runtime terminology service

Distribution mechanisms should support the formats that enable software vendors to easily capture what they need to serve specified use cases like with the HITSP Information

Specifications, or to serve a particular set of clinical domain functions of a vendor such as medications.

- Meta Data Services is an object-oriented repository technology that can be integrated with enterprise information systems or with applications that process metadata

6) How and how frequently should subsets and/or value sets be updated, and how should updates be coordinated?

Standards configuration management is always difficult to maintain and support, but it is necessary to have a viable program that routinely provides updates, and there should be coordinated effort to establish updates as appropriate for the data type -- periodic with fixed cycles, whenever possible. Exceptions should be allowed for high priority "critical" updates. A "publish and subscribe" scheme should be available. If the subset or value subset of the terminology undergoes a major conversion then General Equivalence Mappings, such as for ICD-10 PCS to ICD- -CM and vice versa, should be provided.

7) What support services would promote and facilitate their use?

- Development and implementation of a standards management methodology for IT standards that describes management policies, appropriate implementing procedures, and responsibilities.
- An open, web-based registry and repository, analogous to the Wikipedia or knowledge database for distribution that provides for transparency and allows ease of use.
- Additionally the formation of HIT standards configuration control board that oversees the publication and periodic management of vocabularies

8) What best practices/lessons learned have you learned, or what problems have you learned to avoid, regarding vocabulary subset and value set creation, maintenance, dissemination, and support services?

- Standards development is incremental and long-term. Concentration must be placed on essential information needs and maturing value sets first for the provider organization. Sharing information is a key element for improving quality of health and outcomes, which in turn helps create the motivation for improving data quality. By adopting standards - analyses and comparisons can be made between data.
- Senior leadership must commit to the use of health IT standards-based value sets. The marketplace must fulfill their requirement to respond by ensuring that products and services are compliant with these set standards and can produce their output with the standard vocabulary sets. In other words, don't make the customer try to figure it out themselves by hiring a clearing house to do it for them as we do with claims data or we will not be able to have meaningful use at the targeted dates.
- There are overlaps in the areas of information modeling, messaging, image formats, vocabularies, and security. A clear delineation of responsibility is often lacking among health care SDOs.
- I cannot stress enough that rigorous and comprehensive configuration management (CM) is a constant and non-negotiable requirement for both producer and consumers of vocabulary sets. Management and maintenance of standards and value sets must be supported and funded. An organization's governance of a terminology and value sets maintenance plan requires monthly, bi-monthly, and/or annual schedules to coordinate and synchronize set creation, set maintenance, data mapping, and set dissemination among the organizations' applications and with its trading partners. . To give value set CM proper attention, organizations must dedicate resources.

- Within the CM space, version control —internal (between applications) and external (between organizations)—is essential. The frequency (annual, quarterly, or monthly) of changes for any particular set is critical. This is especially true in the area of triggering clinical decision support in a computable fashion...

- Value sets chosen from the same vocabulary can have very different order-of precedence concepts for different use cases , and an agreed upon sequence of mapping through that value set to arrive at the right concept for each particular use case can be extremely important for the trading partners software to work correctly. Depending upon whether one is trying to trigger a duplicate medication alert, or a medication allergy alert, the sequence of matching concepts to the actual patient medication order can be very different. Vendors may need some help with this. Vocabulary experts are a scarce resource.

9) Do you have other advice or comments on convenience subsets and/or value sets and their relationship to meaningful use?

- Standards are particularly important to government agencies to ensure that their systems remain open, extensible, and flexible with minimum risk of vendor proprietary interests and lock-in concerns.

- The Consolidated Health Informatics (CHI) and the Health Information Technology Standards Panel (HITSP) work has been instrumental in getting us far along the road toward interoperability, but we have long way to go. Standards compliance is the key to interoperability and integration between health care organizations.

- Support is needed for the adoption of a set of principles related to a common:
  - **Reference Information Model** that addresses consistency and provide the basis for information interchange,
  - **Reference Terminology Model** that provides for the underlying clinical content in semantically consistent ways, and

- **Security/Trust Framework** that facilitates secure interchange among stakeholders and business partners

10) What must the federal government do or not do with regard to the above, and/or what role should the federal government play?

- The Federal government, ideally, should provide leadership and open-source intellectual property, which small organizations cannot afford to do. This must be done with standards bodies (e.g. SDOs) and in other health IT forums or committees like NCVHS where peer review and transparency are recognized.

Thank you for the time you have spent in considering my testimony. I am happy to answer any further questions you may have.